

Alzheimer's Disease and Other Dementia
Summary of Methods and Data for Estimate of Costs of Illness

- | | |
|---|-----------------------|
| 1. Estimated Total Economic Cost | \$ 100 billion |
| Estimated Direct Cost | \$ 15 billion |
| Estimated Indirect Cost | \$ 85 billion |
| Reference Year | 1997 |
| IC Providing the Estimate | NIA, NINDS |
| | |
| Direct Costs Include: Other related nonhealth costs | Yes |
| Indirect Costs Include: | |
| Mortality costs | Yes |
| Morbidity costs: Lost workdays of the patient | Yes |
| Morbidity costs: Reduced productivity of the patient | No |
| Lost earnings of unpaid care givers | Yes |
| Other related nonhealth costs | No |
| Interest Rate Used to Discount Out-Year Costs | Not Available |
| 2. Category code(s) from the International Classification of Diseases, 9th Revision, Clinical Modification,(ICD-9-CM) for all diseases whose costs are included in this estimate: | |
| | <u>331.0(1); 290.</u> |
| 3. Estimate Includes Costs: | |
| Of related conditions beyond primary, strictly coded ICD-9-CM category | No |
| Attributable to the subject disease as a secondary diagnosis | Yes |
| Of conditions for which the subject disease is an underlying cause | Yes |
| 4. Population Base for Cost Estimate (Total U.S. pop or other) | Age 65+ |
| 5. Annual (prevalence model) or Lifetime (incidence model) Cost: | Annual |
| 6. Perspective of Cost Estimate (Total society, Federal budget, or Other) | Total Society |
| 7. Approach to Estimation of Indirect Costs | Human Capital |
| 8. <u>Source of Cost Estimate:</u> (Reference published or unpublished report, or address and telephone of person/office responsible for estimate) | |

The estimated total economic cost of \$100 billion is an inflationary increase of the costs originally reported by Huang et. al. and is supported by subsequent studies by Ernst & Hay.

Huang, L-F, Cartwright, WS and Hu, T-W, "The Economic Cost of Senile Dementia in the United States, 1985", Public Health Reports Vol. 103, No. 1, pp. 3-7 (1988).

Ernst, RL, Hay, JW, Fenn, C, Tinklenberg, J, and Yesavage, J, "Cognitive Function and the Costs of Alzheimer's Disease", Arch Neurol 54: 687-693, 1997.

Ernst, RL, and Hay, JW, "The US Economic and Social Costs of Alzheimer's Disease Revisited", American Journal of Public Health 84: 1261-1264, 1994.

9. Other Indicators of Burden of Disease:

Estimates of the prevalence of Alzheimer's disease in the population vary considerably, ranging

from 1.09 to 4.58 million individuals. A recent consensus statement developed by the American Association for Geriatric Psychiatry, the Alzheimer's Association, and the American Geriatrics Society puts the estimate of AD cases at 4 million persons nationally, and still concludes that Alzheimer's disease and related dementias are under diagnosed (Small, GW et al. JAMA 16: 1363-1371, 1997). It should be noted that the estimates provided above do NOT include dementias other than Alzheimer's Disease, and thus are a likely underestimation.

There is consensus among studies that prevalence of the disease increases with advancing age, doubling each 5 years over the age of 65. As the American population continues to age, it is projected that the prevalence will nearly quadruple in the next 50 years, by which time 1 in 45 Americans will be afflicted with the disease (Brookmeyer, R, et al. American Journal of Public Health 88: 1337-1342, 1998).

Cost of AD care appears to vary by the stage of the disease. A recent cross-sectional study of 679 Alzheimer's disease patients from thirteen sites in nine states has estimated the costs of Alzheimer's disease care by disease stage and care setting (Leon J, et al. Health Affairs 17(6): 206-216, 1998). In 1996, annual costs of caring for patients with mild, moderate, and severe Alzheimer's disease were \$18,408, \$30,096, and \$36,132, respectively. It was estimated that monthly savings of \$2,029 in formal services are possible if disease progression can be slowed. Annual institutional cost savings of \$9,132 also are achievable if alternative residential settings are used.

Recent studies have estimated the costs attributable to informal care provided by family or friends in the community. Rice and colleagues estimate that the cost of informal care for community residents was \$35,000 per year, compared to \$5,500 for nursing home residents. Total yearly cost of caring for AD patients was \$47,000 both for community and institutionalized persons, but with large differences in the proportion of care that was informal (12% for those in nursing homes, 73% for community dwellers). (Rice, DP, et al. Health Affairs 12: 164-176, 1993).

10. Commentary:

Economic consequences of Alzheimer's disease such as direct medical and nonmedical expenditures by patients' families and the amount of time spent by third parties in caring for patients with dementia are substantial. However, little systematic accounting to estimate these consequences has been undertaken. More recent analyses point out the need for a reevaluation of the cost estimates for AD and related dementias.

The National Institute on Aging's Alzheimer's Disease Education and Referral Center (ADEAR) provides patients, their families, and the general public with the latest information on Alzheimer's disease. The ADEAR center is available on the internet at <http://www.alzheimers.org>.